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ABSTRACT

A pilot study was conducted as part of a larger sociological investigation of small group interaction. Specifically, the study dealt with communication in three first-grade advanced reading groups, each composed of 15 children, and focused on two types of requests: those for action and those for information. Student interactions were audio- and videotaped during a reading activity. Requests for information and action were identified and further analyzed according to linguistic form. Data analysis revealed that children differed in the variety and complexity of their requests to other children and that no strong same-sex preference for choice of listener emerged. (FI)

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Technical Report No. 505

A SOCIOLINGUISTIC APPROACH TO COMMUNICATION IN SMALL INSTRUCTIONAL GROUPS

by

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Report from the Project on
Studies of Instructional Programming for the Individual Student

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Abstract

The two purposes of this paper are: (a) to discuss a sociolinguistic approach to communication in the classroom; and (b) to provide an example of the use of this approach in the investigation of interaction among teachers and students in first-grade reading groups. A sociolinguistic approach to language is characterized by the study of communicative competence, the knowledge of language structure and function. A sociolinguistic analysis includes: (a) the study of meaning in context; (b) the accurate and complete sampling of speech events; and (c) the analysis of the samples of speech events which enable research questions to be addressed. The results of a study on communication in three first-grade reading groups are presented. The study focused on three types of requests: requests for attention, action, and information. Two research questions are addressed. The subjects were 15 first-grade students who comprised 3 separate reading groups, at the advanced level. Students interactions in the all-student groups were audio- and videotape recorded during a reading activity. Requests for information and action/object were identified and further analyzed according to linguistic form. Data analysis revealed that children differed in the variety and complexity of their requests to other children, and no strong same-sex preference for choice of listener emerged.

The purposes of this paper are to discuss a sociolinguistic approach to communication in the classroom, and to provide an example of the use of this approach in an investigation of interaction among students in first-grade groups.

A Sociolinguistic Approach to the Study of Communication in the Classroom

Sociolinguists make assumptions about language and the social world, including the concept of communicative competence and the importance of meaning in context. Sociolinguists study an area of content, including models of the use or function of language in social contexts, as well as models of social roles and relationships as expressed in communicative behavior. They use a variety of methods of research including both naturalistic observational techniques and experimental techniques.

Assumptions: Communicative Competence and Meaning In Context

The fundamental assumption which underlies the sociolinguistic approach to language is the concept of communicative competence, which consists of knowledge of the rules of language structure and function. Communicative competence includes the:

> Knowledge of sentences, not only as grammatical but also as appropriate. He or she (the child) acquires the competence as to when to speak, when not, and as to what to talk about with whom, when, where and in what manner. In short, a child becomes able to accomplish a repertoire of speech arts, to take part in speech events, and to

> evaluate their accomplishment by others. (Hymes, 1974, p. 277).

Communicative competence enables children to participate as speaking and communicating members of society. The sociolinguistic approach emphasizes the importance of conversational experiences; that is, social contexts such as the classroom within which children develop communicative competence.

An important issue in the study of interaction is the context within which the data are collected. Specification of context is essential for interpreting findings, since human behavior varies according to the situation within which it occurs (Mischel, 1977).

Labov (1972) has asserted that the goal of social science should be to specify the conditions under which a particular rule applies or a particular relationship holds; Labov has formulated this as "variable rules." This view stands in contrast to a positivist model of social science which holds that the scientist's quest is to discover general rules or specify relationships that hold across situations. As Labov and Fanshel have stated (1977), these goals are not mutually exclusive:

> Eventually we must construct discourse rules that are quite general and stand free of context; but with our present state of knowledge the only way we can be sure that these rules are developing in a useful direction is to show that they apply over and over again in many different contexts. In any particular context, we will not know if a particular rule applies unless our knowledge of contextual conditions is accurate (p. 73).

Mishler (Note 1) has argued that the study of meaning in context within social science is paradoxical. One side of the paradox is that human action is context-dependent and may only be understood within its context. The other side of the paradox is that this common sense understanding has been excluded from the main tradition of theory and research in the social sciences.

It is necessary to specify the context within which human behavior is observed, both in laboratory and naturalistic studies. For example, in naturalistic studies, data may be collected for different groups in comparable situations, such as the speech events of snack or lunch-time in the preschool (Cherry, 1975) and the lesson in the elementary school (Cherry, 1978; Mehan, Cazden, Coles, Fisher, & Maroules, 1976). Likewise, in laboratory studies, the specification of context is important; as Bronfenbrenner (1977) has argued. the experimental laboratory is a particular type of "ecological context" with its own specific effects. He argues that it cannot be assumed that the findings from experimental studies are any more context-free, or universal, than findings from other studies. Similar positions have been argued by Abelson (1976) in cognitive psychology, Cazden (1970) in developmental and educational psychology, Goffman (1971) in sociology, McQuire (1973) in social psychology, and Mischel (1977) in personality psychology. Mischel (1977) has argued that a reasonable goal for the social sciences is an interactional theory, which would include the study of "person by situation interactions," that is, "how the

environment influences behavior and how behavior in people who generate it in turn shapes the environment in endless interaction" (p. 251).

Content: The Functions of Language in Social Contexts

The content area of sociolinguistic research includes at least two distinct foci, the functions of language, pragmatics, and the relationship between social variables, such as roles and status, and linguistic expression, form and function. Sociolinguistic analyses describe co-occurring aspects of speech and the speech situation (Cazden, 1976).

One of the basic principles of the sociolinguistic analysis is that there are alternative ways of expressing at least approximately the same meaning or accomplishing the same function. The choice of a particular form of expression is determined by the social and contextual factors such as the topic being addressed or the communicative abilities attributed to the listener (Humes, 1974). This principle is the paradigmatic relationship that holds among language elements, or the rules of alternation (Ervin-Tripp, 1973).

Another basic sociolinguistic principle is that there is an interdependence among the chosen forms of expression. The choice of the initial, particular form of the expression affects all succeeding choices within the language unit. This principle is the

syntagmatic relationship that holds among language elements, or the rules of co-occurrence (Ervin-Tripp, 1973).

Rules of sequencing account for coherence in any series of utterances in a conversation. Labov (1972) has argued that coherence involves formulating rules of interpretation, which relate "what is said"--statements, interrogatives, imperatives--to "what is done"--actions such as refusals, assertations, denials. There is no simple match between utterances and actions. Analysis of the linguistic structure of the utterances will not reliably provide their meaning, even though the utterances are made possible by and performed in accordance with the rules of linguistic structure. Two utterances may accomplish different actions even though they have the same grammatical representation, as shown by the following utterances, both declaratives: "You are standing on my foot," and "You are going to be audited next week." The first utterance is a request for the listener to remove his or her foot, while the second utterance provides information to the listener. Two utterances may have different grammatical representations but accomplish the same action, as in the following utterances: "You are standing on my foot," and "Get off my foot." Both utterances are requests for the listener to remove his or her foot. The first utterance is declarative, while the second is imperative. Rules of interpretation and production relate utterances to actions, while sequencing rules operate between actions performed with utterances themselves.

These principles of sociolinguistic analysis have implications for the kind of data that will be collected by the researcher. The principle of the paradigmatic relationship among language elements makes it mandatory that contexts be specified in sufficient detail that the elements of language use and social contexts may be defined. The principle of syntagmatic relationships and rules of sequencing among language elements make it likely that complex systems of analysis, such as the hierarchical coding system, multidimensional coding system, and sequential analysis coding system may be employed in data analysis (see Cherry, 1978, for example).

An example of a study of the functions of language, or pragmatics, is found in Read and Cherry (1978), which examined the development of one function of language: the request for action/object, or directive. This research revealed a developmental progression in the complexity of the linguistic expression of the request for action/object with increasing age during the preschool years.

Previous research by Cherry (1978) provides an example of sociolinguistic analysis in studying the relationship between social variables and linguistic expression. In this research, the teacher expectation model (Brophy & Good, 1974) was tested. Cherry examined how the quantity and quality of certain aspects of teachers' language differed according to their expectations of students'

communicative competence. The results of the study provided partial support for the "self-fulfilling prophecy" hypothesis. On some measures of teachers' requests for information, either one or both of the teachers provided different opportunities for the "above average" students than for the "below average" students. The two teachers differed from one another in the patterns of their attempts to request more appropriate responses (information) from the "above average" students. The teachers also differed from one another in their use of explicit positive feedback with the two groups of students, but these differences were not as strong as the differences in requests for information. This study provides an example of the use of sociolinguistic analysis for testing the adequacy of one social psychological model.

Methods: Data Collection and Analysis

Sociolinguists use a wide variety of research methods, including naturalistic observational techniques such as ethnographic description, and elicited/experimental techniques such as the Corpus Extension Instrument (Shuy & Griffin, Note 2).

The technique of ethnographic description has been useful (Hymes, 1974) in describing the speech situation, or context. Sociolinguists often use ethnographic techniques to specify the contexts within which speech events occur so that further analysis of behavior may be carried out. Conventional ethnographies include descriptions of culture as a set of established categories devised

by society for organizing human behavior (Cahir, 1978). Mehan (1978) has criticized conventional ethnographies for: (a) having an anecdotal quality; (b) not making explicit adequate criteria for categorizing behavior; and (c) using summaries of data and excluding detail necessary for interpretation of the results. Thus, conventional ethnographies are typically nongeneralizable, nonreplicable, and noninterpretable.

Recently, new ethnographic techniques have been developed to remedy these problems. The new ethnographies are characterized by a focus on the behavior of participants in social interaction--"what is going on" in the "here and now" (Goffman, 1974). The observation of behavior is attempted without an a priori schema for categorization. Both verbal and nonverbal behaviors are described at macro and micro levels. The aim of this research is complete and adequate description of human behavior in context. For example, Mehan (1978) has extended and modified the conventional ethnographic approach to what he calls the "constitutive study," which describes the interactional processes in social behavior. The goal of this procedure is the same as conventional ethnography, but the methods of analysis are specified in greater detail so that the data can be adequately understood in context. According to Mehan, an adequate description of language use in classroom contexts requires an exhaustive analysis of a representative sample of classroom interactional behavior. In sum, careful ethnographic research provides, through

adequate and complete description, a means for segmenting behavior and revealing recurring patterns (Cahir, 1978).

Since a goal in sociolinguistic research is the collection of complete and accurate data so that fine-grained analysis can be carried out, audio and video recording of interactions with sufficient contextual information to allow subsequent analysis has emerged as the most desirable method of data collection. Duncan and Biddle (1974), Jackson (1968), and Adams and Biddle (1970) have all observed that there are literally thousands of discriminable verbal and nonverbal behaviors in classroom interactions such as the lesson or reading group activity. Techniques of data collection which preserve these phenomena are crucial if data analysis is to reflect the richness of interaction in context.

Many sociolinguists believe that audio and video recordings are the most effective means of data collection, in contrast to "live observational techniques" for at least two reasons. First of all, live observational techniques allow only unidimensional coding systems, since it is not possible for a human information process to analyze sequences of discrete utterances at two levels simultaneously. For example, sequences of utterances cannot be reliably analyzed at both syntactic and functional levels by observers "on the spot." Observers' attention to selected speech behavior is mandatory in classroom contexts, which are characterized by an overwhelming quantity of data. A second problem with

live observational techniques is the extent to which methods of data collection alter the phenomenon under investigation. The problems include techniques for investigating speech behavior in classrooms; observers often edit some utterances, disregard others, and either overlook, correct, or neglect to record grammatical "errors" (Soskin & John, 1963). Clearly, the speech of teachers and students is likely to be altered in unspecified ways with live observational techniques of data collection.

A goal of sociolinguistic research is adequate description and analysis of the data which were collected, so that particular research questions may be addressed. Describing the speech situation and extracting the unit of sample from the ongoing stream of behavior are the primary problems posed to the sociolinguistic researcher. Erickson and Schultz (1977) have developed a procedure for describing classroom interaction which is useful in this respect. Their analysis involves a six-step process of viewing videotapes made during classroom interaction.

Ideally, sociolinguistic analyses and descriptions, like linguistic descriptions, identify categories of language and specify the relationships among these categories and social contexts. These descriptions are often hierarchical in nature. Ideally, these categories are mutually exclusive and jointly exhaustive, so that each instance observed can be identified as belonging to one and only one of the categories. Multilevel

coding systems, such as hierarchical coding systems, have been employed in linguistic analyses. These systems allow the separation of various levels of communicative behavior and the establishment of relationships among these levels. Again, the availability of accurate and complete raw behavioral data is crucial if interrelationships are to be described in enough complexity to accurately reflect the phenomena.

The Study

The authors recently conducted a pilot study which applied some of the principles discussed in the preceding section and thus illustrates the use of the sociolinguistic approach. The study reported here was in preparation for a more extensive study using these methods which is currently in progress. Two research issues are addressed in this section. One issue involves a detailed examination of two functions of language, the request for action and the request for information, in the speech of first-grade children. The second question concerns the relationship between one social variable and these language functions in a particular context. Specifically, we will examine whether speakers exhibit a preference for listeners of the same or opposite sex in making these requests of fellow students in first-grade, all-student reading groups.

First-Grade Reading Groups

The three first-grade reading groups studied here are composed of four to six children, approximately six years of age, and have at least two members of each sex. The "all-student" reading group, in which students work without the teacher's presence in the group, is very common in early elementary school classrooms, and is the context of concern in this study.

The size of the reading groups--four to six children--is small and implies that some of the qualities of small groups, such as cohesiveness (Hartup, 1974) and active participation per individual (Hare, 1976) will be observed. The age of the children, however, suggests that even in small groups of four or five, some splitting into subgroups may occur. Nursery age children tend to play in groups of two (Parten, 1933) and only near the end of their preschool years do they begin to interact in threes, fours, or fives (Parten, 1933; Swift, 1964) although two is still the predominant size (Parten, 1933). Smith (1973) found that groups of 5- and 6-year-olds working on a common task split into subgroups to work toward the goal. Smith suggests that children of this age are not capable of dealing with group size and complexity (Smith, 1973, p. 545). There is, however, a developmental trend toward greater group orientation and this trend is significant between the ages of 6 and 8, the age group with which we are concerned. Therefore

it is expected that dyadic interaction between children, which is the focus of the pilot study, will occur, although not exclusively.

Reading groups are somewhat in their task orientation and organization in that they can be classified as neither cooperative (shared goal, interdependent) nor competitive (individual goal, independent, one "winner" only). The groups instead are organized around individual tasks (all members usually having the same task) yet members are encouraged to cooperate as they work. Rewards are individually distributed yet attainment of a reward by one member does not preclude reward attainment by another as in competition. Also, in addition to individual task rewards, the group may be reprimanded or rewarded as a whole for its behavior. One speculated effect of such an organization may be encouragement--or at least a lack of discouragement--of the dyadic interaction typical of this age group.

Membership of reading groups has been found to be fairly stable after the first month of school (Groff, 1962--grades 2-4; Hawkins, 1966--grades 1-6; Weinstein, 1976--grade 1). Since the present study examined groups near the end of the school year, it is likely that group members were familiar with each other and with the process of interacting in this context. Membership stability is likely to affect group functioning in that status hierarchies are clearly defined in groups which have had stable membership (Hare, 1976--shared-goal, adult groups).

Previous research on small groups and reading groups, then, leads us to expect a good deal of peer interaction, primarily oriented to the tasks assigned to the group. Both dyadic and larger units of interaction can be expected to occur in this context.

Requests for Action and Information

This study dealt with the general request function of language, specifically two request types, the request for action and the request for information. The request function of language was chosen as a primary focus of this study for four reasons. First of all, requests are inherently social; in the course of a request, both speaker and listener say or do something. A second reason for the focus on requests is that request forms can serve both informational and interpersonal functions. Third, a number of investigators have presented data which show that request forms of various types are prevalent in the classroom situation (Cherry, 1978; Mehan et al., 1976; Sinclair & Coulthard, 1975). There are less data available on the frequency of various request forms in student-student interaction; however, studies by Cazden (Note 3) and Mishler (1975) suggest that request forms are also common in this interactional context. Finally, the study of request forms was chosen because the field of pragmatics offers some formal criteria for the identification and structural analysis of these linguistic forms (Garvey, 1975; Labov & Fanshel, 1977).

Requests for Action

The request for action conveys a speaker's intention that a listener perform some action. Requests for action are also known as directives, and have the imperative (e.g., "Give me some.") as their underlying form. Labov and Fanshel (1977) formulated a general rule of requests for action which specifies the conditions under which a listener will understand a speaker's utterance as a request for action on the listener's part:

> If A addresses to B an imperative specifying an action X at time T_1, and B believes that A believes that:
>
> 1a. X should be done (for a purpose Y) (need for action);
>
> 1b. B would not do X in the absence of the request (need for request);
>
> 2. B has the ability to do X (with an instrument Z);
>
> 3. B has the obligation to do X or is willing to do it;
>
> 4. A has the right to tell B to do X;
>
> then A is heard as making a valid request for action. (Labov & Fanshel, 1977, p. 78)

Labov and Fanshel (1977) also describe the Rule for Indirect Requests, by which a request for action is issued without use of an imperative. Indirect requests are frequently accomplished by reference to one or more of the preconditions in the general rule of requests (need for the action, need for the request, ability of the listener to comply, obligation or willingness of the listener to comply, and right of the speaker to make the request). For example, an indirect request could be made by referring to the

precondition of ability: "Can you pick him up at the airport?" No imperative is issued, but the directive intention is nonetheless expressed. Similarly, by saying "I'm hungry," a speaker can make reference to the first precondition, the need for the action, which in this case would be interpreted as a request that the listener do something to alleviate the speaker's hunger. Garvey (1975) found that preschool children frequently justified or explained their direct imperatives by producing adjuncts which referred to the preconditions (or the sincerity conditions) of the requests. She also found that children constructed indirect requests by referring to the preconditions underlying the request for action, much the same as adults do.

Labov and Fanshel (1977) discuss the reasons that indirect requests are frequently used. They state that there is a continuum of mitigation and aggravation, mitigation being the "softening" of requests so as to "avoid creating offense" (p. 84). Mitigation can be accomplished by the use of expressions such as "please" or "if you don't mind," or the use of indirect requests for action. These appear to allow the listener more options in responding than direct imperatives, which do not appear to give the listener a choice as to whether to comply. It has been argued that the degree of mitigation or aggravation built into a request for action may reflect the relative status of the speaker and listener, with mitigation

serving to soften requests to higher status listeners and aggravation indicating the speaker's relative dominance (Henley, 1977).

Some researchers have investigated requests for action produced by preschool children (Bates, 1975; Ervin-Tripp, 1976; Garvey, 1975; James, 1975; Read & Cherry, 1978). These studies reveal that children are able to produce indirect requests at an early age, although development appears to progress from the use of direct imperatives to the use of indirect forms. Garvey (1975) found twice as many indirect requests in the speech of older 5-year-old dyads than of younger 4-year-old dyads. A study by Read and Cherry (1978) defined four main surface forms used by preschool children to convey requests for action, including imperatives ("Give me a cookie"), embedded imperatives ("Can I have a cookie?"), expressions of want/need ("I want a cookie"), and declarative statements with directive intentions ("That cookie sure looks good" or "I'm hungry").

Requests for Information

The request for information is used by a speaker who wants to obtain information from a listener. As Labov and Fanshel (1977) point out, requests for information are closely related to requests for action; in the latter type, the speaker may say "Give me X", while in the former, he may say "Give me information about X", (Labov & Fanshel, 1977, p. 88). Labov and Fanshel formulate the rule for requests for information as follows:

> If A addresses to B an imperative requesting information I, or an interrogative focusing on I, and B does not believe that A believes that:
>
> a. A has I;
> b. B does not have I;
>
> then A is heard as making a valid request for information. (Labov & Fanshel, 1977, p. 89)

Requests for information are frequently expressed through interrogative forms, although other syntactic structures may be used. Research by Cherry (in press) examined the use of the request for known information, a request type frequently observed in instructional contexts where the teacher asks students for information already known to her. This request type occurs both in teacher-student interaction during classroom lessons (Cherry, 1978; Griffin & Humphrey, 1978; Mehan et al., 1976; Sinclair & Coulthard, 1975) and in peer-tutoring contexts (Cazden, Note 3).

Preferences of Speakers for Same-Sex or Opposite-Sex Listeners

The other major aspect of this study concerns the influence of the social variable of sex role and the request functions of language in the context of the first-grade reading group. Specifically, we wanted to know whether children in these reading groups make requests to listeners of the same or opposite sex.

Sex of speaker and addressee have been found to affect the communicative choice of adults, and there is some indication that children's communicative behavior may be influenced by variables involving gender. Research indicates that children in first grade

prefer same-sex peers in making playmate or affiliative choices (Campbell, 1964; Haskett, 1971; Maccoby & Jacklin, 1974; Moore & Updegroff, 1964; Moreno, 1953; Parten, 1933). These studies, however, have not dealt with preferences in small, mixed-sex groups. It may be that in free-forming groups, children gravitate toward same-sex partners, but in mixed-sex, task-oriented groups their communication patterns will not reveal a same-sex preference. Hartup (1974) points out that even though same-sex preference is the norm, there is no evidence that this preference is based on a strong rejection of the opposite sex. In fact, in a study of first-grade pairs, Haskett (1971) found that cross-sex cooperative pairs showed a significant increase in partner preference after interaction although preinteraction choices tended to be same-sex. A similar increase in partner preference was not found for same-sex partners, which suggests that one reason for the infrequency of cross-sex choice may be lack of interaction. Both proximity and high rate of interaction have been found to be positively associated with affiliation (Bersheid & Walster, 1969; Glidewell, Kanton, Smith, & Stringer, 1966; Homans, 1950).

In sum, although evidence to date supports the hypothesis that same-sex preferences exist in children's affiliative choices, the degree to which a similar pattern is present in the context of the task-oriented mixed-sex reading group remains an open question.

Methods

Subjects

The subjects for this study were 15 first-grade students composing three reading groups in three separate classrooms of one school. The school selected participated in the Program of Individually Guided Education of the Wisconsin Research and Development Center for Individualized Schooling. Each reading group was the most advanced in its classroom. The teachers had determined the composition of the reading groups based on the general level of the students' reading abilities and reading readiness at the beginning of the school year.

Prior to videotaping, each student's linguistic level was examined through formal and informal language assessment. Typetoken ratio (a measure of vocabulary diversity), sentence complexity (a measure of the grammatical complexity of language production), and comprehension of language were defined according to standardized procedures (Carroll, 1964; Loban, 1963; Miller & Yoder, 1975). Methods were devised by the authors to investigate the production of interrogative forms (yes-no questions, pre- and postposed Wh-questions, and positive and negative tag questions) and skill in varying the production of requests for action (directives) and requests for information according to the demands of particular situations.

The data show that the children performed at least as well as expected for their age group according to existing norms on the standardized tests (Loban, 1976; Miller & Yoder, 1975; Miller, Note 4). A one-way analysis of variance for sex of student was computed for each language measure; there were no significant sex differences in any measure of language ability. In addition, there were no significant differences on any of the language measures across groups.

The 15 students were all Caucasian, native speakers of English, ranging in age from 6 to 8 years, and middle class. Informed consent had been obtained from the parents of all students. Three other students normally in the reading groups under investigation were excluded from the present study; one student lacked parental permission, and two students were absent on the days when the videotaping occurred. There were eight females and seven males in the final sample, with the composition of the groups as follows: Group A consisted of two females and two males; Group B consisted of two females and three males; Group C consisted of four females and two males.

Procedures

Identifying the Speech Situation

Identification of the reading groups in the study preceded video- and audiotaping of interaction in the classroom. The first

author visited the teaching staff of this unit of first grade and discussed the nature and the goals of the study with the teachers. Through these consultations it was established that all of the reading groups had been in existence for several months.

The first author visited the three classrooms spending an entire day in each classroom to observe general activities and the relationship of the reading groups to the structure of the school day. The teachers designated 9:00 a.m. to 9:50 a.m. as reading activity time. The first author returned for a second visit to each classroom to observe and take notes on the reading activity from 9:00 to 9:50 in each of the classrooms. The teacher announced the beginning of the reading activity. Students chose their seats at the table. Two of the teachers provided instructions for their reading groups while the students were in the whole group formation; one of the teachers provided those instructions after the students had formed their small reading groups. The reading activity in the groups ended when the teacher dismissed the students for recess or announced that the reading activity was finished.

Data Collection

Audio- and videotaping was scheduled for early April of 1978; the days selected for each classroom were chosen randomly. The days chosen for taping in each classroom were regarded as typical days by the classroom teachers. Each reading group was video- and

audiotaped during one period defined by each teacher as the reading group activity time. The team arrived at the school to set up the equipment before the students arrived. Video and audio recording began before the students assembled at the tables designated for the reading activity, and continued for about 5 minutes after they had left the area.

One stationary camera (Sony 3200) and one portable video camera (Sony Port-a-pak) were used to record the activity of each group; cameras were visible to the group members and were positioned across from one another so that nearly full-face views of all group members would be on one or the other camera. Two microphones (Electravoice 635A) were placed in the middle of each group's table.

Prior to, during, and following the video and audio recording, two observers prepared ethnographies of the ongoing events in the group, including the behavior of the students, to supplement the recordings with relevant contextual information which may not have been taped. These two observers were also in the same room and visible to the students, so along with the two members of the research team operating the cameras, there were a total of four adults with the students in addition to the teachers and staff. Schematic diagrams of the classrooms are included in the Appendix.

According to the school principal, videotaping of both teachers and students was routine in these classrooms. The subjects were also used to the presence of several adults in the classroom

in addition to the teacher; these adults included student interns, nurses, parent aides, and various specialist teachers.

Analysis of Data

Indexing of tapes. The indexing of the videotapes was guided by the methods suggested by Erickson and Schultz (1977) and Griffin and Shuy (1978). The major events that occurred on the tapes were written down on index forms (an example may be found in the Appendix). The phases of the reading event were identified, and the transition points were located on the basis of verbal and nonverbal behavior. Information in the ethonographies was used to help identify these boundaries.

Transcription of tapes. The videotapes made for each group were transcribed by one of the authors according to the procedures devised by Cherry (1974). The videotapes were transcribed from beginning to end; the transcriber used both the ethnographies and the tape indexes in this process. The tapes were viewed from start to finish several times by the transcriber before actually beginning the transcription. A relatively long segment of all-student interaction for each group that was chosen for detailed anlaysis (36 minutes for Group A and 21 minutes for Group B and C). During this segment the teacher was not with the group; typically, she was in the classroom assisting other students. A transcription was made from one of the audio tracks first, and then the track from the second tape was transcribed and integrated into the first transcript.

Transcipts were rechecked against both tapes. Reliability on these data have been established for word and utterance boundaries (after Cherry, 1974); these reliabilities exceeded 80%. Following completion of the verbal transcription, the videotapes were viewed for relevant nonverbal and spatial information which was included on the transcripts.

The speech of all participants on the tapes was transcribed as completely and accurately as possible. Several factors made this task a difficult one. First of all, not all group members were easily visible on the videotape at a given time so identifying speakers was initially a problem; several viewings of these sequences resolved this. A second problem for the completeness and accuracy of the transcribed data resulted from frequent simultaneous or overlapping conversations among group members. To determine the accuracy and completeness of the taping procedure, completely intelligible, partially intelligible, and completely unintelligible utterances were marked and tallied for each group. Close to 90% of the utterances transcribed were completely intelligible.

The comparability of the three groups and the comparability of the all-student segments is discussed next. The general context of the reading lesson provided the basic commonality for the three groups; however, the degree of similarity across groups varied with respect to several dimensions, including:

1. Size and sex composition. The three groups all varied

on these dimensions, with Group A consisting of two males and two females, Group B consisting of three males and two females, and Group C consisting of two males and four females (see Table 1).

2. Group phases. All groups were similar in the processes whereby they assembled and disintegraded and passed through similar major phases during the activity period (i.e., initial instructions presented by teacher, all-student group functioning, and a teacher-directed segment occurring shortly before the groups disintegrated).

3. Physical environment. All groups were seated at small tables of varying shapes in classrooms which also contained other groups of students as well as the teacher; therefore, background noise and general environmental characteristics appeared to be comparable among the groups.

4. Materials. All groups used similar materials in completing their tasks during the all-student phase, such as books, paper and pencils or crayons. However, Group B differed from Groups A and C in one respect: Students in this group were allowed to use puppets to "help" them as they worked. Since the teacher did not assign puppets to group members, possession of the puppets was fairly frequent topic of conversation for this group.

5. Duration. Group A differed from Groups B and C with respect to the duration of the all-student segments investigated (see Table 1).

Table 1

The Sample of All-Student

Groups Selected for Analysis

Characteristics	Group A	Group B	Group C
Duration in minutes of all-student segment	36	21	21
Number of male students	2	3	2
Number of female students	2	2	4
Total number of students	4	5	6

6. Activities during the all-student segment. The three groups appeared similar in the tasks and activities undertaken during all-student sections. The dominant activity was reading, either silently or aloud. All three groups performed one or more activities directly related to the stories read and requiring a written (printed) response, such as completing worksheets (Groups A and C), drawing a picture of the events they had read about (Group B), or printing sentences from the story (Group B).

Coding. The samples of data selected for analysis were coded into the following categories:

1. Request for information. This category involving an attempt by a speaker to obtain information from a listener. The general request for information as described previously (Labov & Fanshel, 1977) is most frequently marked by the use of the interrogative form. Examples of requests for information include: "What's the answer to the next one?" and "Two plus two is--?". Contingent queries (Garvey, 1975) were not included in this analysis.

2. Request for action. Requests for action, also known as directives (Ervin-Tripp, 1976; Garvey, 1975) can be expressed through a wide variety of forms, all based on an underlying imperative form. Requests for joint or mutual action, such as "Let's get our books," requests for permission, such as "Can I sit here?", and directives based on an appeal to obligation (Labov & Fanshel, 1977), such as "You're supposed to read this now" are included within this

general category for the present study. Other examples of the directive forms include the imperative form "Sit down"; the embedded imperative form with the modal verb, as in "Could you sit down now"; use of the word "please" standing alone; the declarative statement, "You are standing up while everyone else is sitting down"; and expressions of want and need, as in "I need that pencil." Reliabilities on these categories were computed as the number of agreements divided by the number of agreements plus disagreements; reliabilities exceeded .80.

After classifying the requests, each was examined to determine whether it unambiguously signalled an intended listener. Unambiguous signals or markers which indicated the intended listener were of two types, overt and nonovert. Overt signals included: (a) the use of the intended listener's name in the request; (b) head orientation and/or eye gaze to the intended listener concomitant with the uttering of the request; and (c) increased physical proximity to the intended listener. The presence of any one of these signals serves to mark the intended listener of the request. In addition to the overt signals, nonovert, contextual information sometimes unambiguously identified the intended listener. If a request lacked one of the overt markers, the transcript was examined to determine: (a) whether the listener had been signalled overtly in the previous utterance; and (b) whether any utterances from other group members had been directed to this listener in the interval between the prior

signalling and the present speaker's request. If the first condition was met and the second was not it was decided that the intended listener was identified. For example, in the transcript from Group C the following exchange occurred:

Mitch: (Pointing to Ann's worksheet): "That's supposed to be the red rabbit."

Ann: "Yah, but what's this word?"

When Ann makes this request for information she is looking down at her paper and does not overtly signal the intended listener. The intended listener could be identified, however, on the basis of the previously established interaction between Ann and Mitch--that is, the gestural pointing to Ann's worksheet. An intended listener was also identified, despite the lack of an overt marker, if the speaker's request concerned an action or utterance performed by the listener immediately prior to the speaker's present request (i.e., prior to any intervening utterances from other group members). An example of this is found in the transcript of Group B:

Evan: "Amy married a dog."

Joanie: "Where does it say married?"

Joanie's request for information does not name Evan as the intended listener, but it clearly concerns Evan's previous utterance.

In order to address the second research question on speaker preference for same-sex versus opposite-sex listeners, two measures were computed for each student, the number of requests directed to

a member of one's own sex (same-sex score) and the number of requests directed to members of the opposite sex (cross-sex score). Since the groups differed with regard to duration and sex composition, an effort to standardize them was made. Since the duration of Group A was 36 minutes, while Groups B and C both had durations of 21 minutes, the raw scores of students in Group A were multiplied by 21/36, and rounded to raw scores which would be predicted if Group A's duration had been 21 minutes instead of 36.

Students' same-sex and cross-sex scores were adjusted for sex composition of their groups by dividing raw scores by the number of possible same-sex or cross-sex listeners in the group. In Group B, for example, which had three boys and two girls, each boy's cross-sex score was divided by 2 (since there were two cross-sex listeners), and his same-sex score by 2 (since there were two same-sex listeners). A girl in Group B would have her cross-sex score divided by 3, her same-sex score by 1. In this way, raw cross-sex and same-sex scores were converted into "number of cross-sex requests per cross-sex listener" and "number of same-sex requests per same-sex listener."

Results

By way of introduction to the results of the study, we would like to present an excerpt from Group B which provides an example of the kind of data we are analyzing.

Sally: Look at what page we get to do. (1)

Chuck: She didn't tell us to work in that book. She (2)
just told us the white pieces. Hey, when can (3)
we get up?

Sally: Beats me. You can talk out loud if you want. (4)

Chuck: I know. (5)

Sally: We should do these two pages. (6)

Chuck: No, we can't. (7)

Sally: Yeah, she said 58 and 59. (8)

Chuck: No, she said-didn't. Did she say 58 and 59, (9)
Chip?

Sally: Yes. We're supposed to do it. (10)

Chuck: Uh-uh. (11)

Terry: Not that. (12)

Sally: We're not supposed to do the test. (13)

Chuck: Not this. We did that already, did't we? (14)
We did that. Where is it? (looking through (15)
book)

Terry: We're supposed to do that. (points to (16)
Sally's book)

Chuck: Oh-oh. (book falls apart) Not again. (17)

Sally: What is it? Oh-oh. (18)

Terry: (laughs) Oh, not again. (19)

Sally: Oh-oh. (20)

Chuck: Oh-oh. (21)

Sally: Now your book is really falling apart. (22)

Chuck: Three parts. (23)

Sally: Oh boy. (24)

Chuck: I know there were ... Hey, didja watch Flintstones last night? (25)

Terry: Oh yeah. (26)

Sally: No. It's on every Friday night at-every- (27)

Chuck: No. (28)

Terry: Every S- (29)

Sally: Thursday. (30)

Terry: Thursday. (31)

Chuck: How come she stapled this part? (32)

Terry: (laughs) That's to get it all in one place. (33)

There are several notable features in this segment. First of all, the participants seem to maintain their attention to the task, at least at some underlying level, even when the topics introduced have little or no connection with the reading assignment. Superimposed on this underlying attention to the task is a rich and well-managed social interaction among the children in which they use a variety of linguistic strategies and forms. The ease with which the interaction progresses demonstrates the participants' awareness of and cooperation with each others' communicative

efforts. Even when the topic of conversation shifts abruptly, as it does several times, all the participants make the transitions skillfully and rapidly.

It should also be noted that the children occupy different roles with respect to the interaction--not all of them participate equally or have equal influence. Chip says nothing during this sequence, although one question is addressed to him. At the other extreme is Chuck, who appears to dominate the interaction in terms of both quantity of verbalization and his ability to initiate and terminate various topics as the interaction progresses.

Having illustrated the heterogeneity of the group interactions with which we are concerned, we turn now to the two main research questions of the study.

Issue 1: Analysis of Requests for Action and Information

Requests for Action

Examination of the requests for action produced by the first-graders in this study reveals that these children had at their disposal a variety of alternate forms with which to accomplish requests for action. Requests for information accounted for 10% of all utterances, and requests for action accounted for 11% of all utterances. Requests for action were classified into five main categories defined by Read and Cherry (1978) after Ervin-Tripp (1976). These categories and examples of them are listed below.

1. Imperative (command form which is not embedded)

Kim: Stop kicking me.

Chuck: Don't read so loud.

2. Embedded imperative (interrogative utterance containing a modal verb)

Chip: Can I use that?

Chip: Can I borrow that, Terry?

3. Expressions of want/need (utterance in which 'want', 'wish', or 'need' appears)

Evan: I want a puppet.

Sally: I want to see yours.

Ann: I want some.

4. Declarative statement (with directive intention)

Al: I can't get the next one.

Kim: I'll trade with you.

Kim: I'm supposed to sit by him.

In addition, the use of "let's" plus the desired action sometimes conveyed a request for action.

Chip: Let's go get our reading books.

The frequencies of each category are given in Table 2.

As can be seen in Table 2, direct imperatives accounted for the majority of requests for action. This finding is in agreement with similar results obtained by Garvey (1975) for preschool-age peers and by Ervin-Tripp (1977) for adult peers. However, it is

Table 2

Frequencies of Forms Used to Request Action or Object

Form	Group A	Group B	Group C	Total
Request for Action or Object				
Direct imperative	8	25	20	59
Embedded imperative	2	5	0	9
Expression of want or need	1	1	1	3
Declarative statement	2	12	3	17
"Let's"	1	3	0	4
Total	14	46	24	92

in contradiction to a statement made by Labov and Fanshel (1977): "In our therapeutic session, and in many other conversations that we have analyzed, direct requests are in the minority" (p. 82). The conflicting results suggest the need to specify the contexts of particular observations. Using a direct imperative depends heavily on the situation, and speakers must balance the relative clarity or explicitness of direct imperatives with their relative impoliteness (Read & Cherry, 1978). A direct imperative to a psychiatrist in a therapy session (Labov & Fanshel, 1977) is rare, while direct imperatives are common and appropriate in, for example, emergency contexts where clarity and simplicity are the highest priorities. A study by James (1975) suggests that preschool children are aware of these distinctions in constructing their requests for action in various contexts.

The findings of the present study show that first-grade children know a variety of linguistic forms for making requests for action. They have some knowledge of the paradigmatic rules governing their initial choice of a form for a particular context, since the direct imperative form is very appropriate in the context of communication among familiar peers. Similarly, the paucity of want/need statements corroborates findings by Ervin-Tripp (1977) for adults; she noted that statements of personal need or desire were primarily addressed to subordinates, and such forms would not be appropriate in the familiar peer context of the present

study. The results also give evidence that first-grade children understand the syntagmatic rules whereby the initial paradigmatic choice constrains subsequent forms, for no glaring inconsistencies of form occur in the transcripts.

The types of requests for action discussed above were modified by speakers in a number of ways to mitigate or aggravate their strength or force, just as has been found in studies of adults and preschool children (Ervin-Tripp, 1976; Garvey, 1975; Labov & Fanshel, 1977). Examples of mitigation found in the present study (mitigating portions underlined) included explaining the need for the request:

> Oops. Hey, can I borrow your eraser again? I made a mistake.
>
> Don't let him copy. Don't let him copy. Don't let him copy. He'll have to do his own.

or using politeness markers such as "please" and "may":

> May I borrow that, Terry?

In addition, some speakers mitigated their requests for action by allowing their listeners to choose the time of implementation:

> Jake, after you get through, could I have him?

Aggravation of a request for action, on the other hand, strengthens its force, as in the following example where a request for action in the declarative form, which is normally fairly "weak", is aggravated both nonverbally and through repetition:

I'm supposed to sit by him. (pushes Jake off chair) I'm supposed to sit by Evan. Evan's supposed to sit by me.

Children are able to control and modify their requests for action even though the majority of requests for action produced by children in this study were immediately successful (i.e., resulted in listener compliance). In the following example, Kim provides a justification which results in success (4), after she makes an unsuccessful request for action (she wants Evan to stop poking at her puppet):

(Evan pokes at Kim's puppet) (1)

Kim: Don't, Evan. (2)

(Evan pokes at her puppet again) (3)

Kim: You could poke somebody's eye out. (4)

(Evan desists) (5)

Similarly, Jake makes two attempts to get Joanie to trade with him, mitigating his second request (3) by making it sound like a merely temporary arrangement. This strategy, however, fails (4):

Jake: Joanie, you want to trade puppets? (1)

Joanie: (shakes her head "no") (2)

Jake: Just for a while. (3)

Joanie: Nope (4)

Aggravations of unsuccessful requests were infrequent, perhaps due to the relatively equal status of the group members. It should

also be noted in passing that children in this study often used intonational cues to signal mitigation or aggravation of their requests (i.e., the use of "wheedling" vs. "threatening" intonational patterns).

As noted above, most of the requests for action produced by the children in this study were successful in that they resulted in listener compliance. It is interesting to examine more closely the cases in which listeners did not comply. Both Garvey (1975) in her study of preschool children and Labov and Fanshel (1977) in their study of adults found two types of refusals (or noncompliant acknowledgments): outright refusals, and responses in which the listener appears to postpone compliance. The latter type of refusal is called "temporizing" by Garvey (1975) and "putting off a request" by Labov and Fanshel (1977). In addition, Labov and Fanshel point out that "In ordinary, face-to-face interaction, the only way in which a request may be refused with reasonable politeness is to give an accounting: an unaccounted refusal can lead to a break in social relations . . ." (p. 87-88). In other words, adults most frequently explain their refusals.

In contrast, we found that nearly half of the children's refusals were not accompanied by accountings in our study, as illustrated in the following examples:

Al: Lookit this. Lookit this. Mitch, Mitch. (1)

Mitch: No! Just read. (2)

Mitch:	Will you help her, Al?	(1)
Al:	No.	(2)

Jake:	Joanie, you want to trade puppets?	(1)
Joanie:	(shakes head)	(2)
Jake:	Just for a while	(3)
Joanie:	Nope.	(4)

In one case, Kim initially refuses a request by Evan without giving an accounting (2); however, after he whispers something to her she justifies her refusal (4) on the basis of the absence of precondition (3), her willingness as the listener:

Evan:	Can I use that?	(1)
Kim:	No.	(2)
Evan:	(whispers to her)	(3)
Kim:	I don't wanna trade with you.	(4)

In addition to outright, unaccounted refusals, there were several occasions on which requests for action were simply ignored by listeners, who acted as though they had not heard the requests. It is difficult to know whether this was actually the case (a possibility when there are simultaneous conversations going on, along with background noise) or whether the listeners were deliberately ignoring the requests, which would be interpreted as extremely impolite in adult interaction.

These examples of unaccounted refusals may show that this aspect of pragmatic competence is incompletely developed in children of this age, since such instances are apparently fairly rare in adult conversation. Of course, more data on both adults and children are needed before this conclusion can be verified.

Another important issue involves the kinds of accountings or explanations given by listeners in refusing speakers' requests. Labov and Fanshel (1977) state that "refusals based on needs and abilities are generally mitigating, while refusals based on rights and obligations are extremely aggravating" (p. 87). Garvey's (1975) preschool children used a variety of reasons to support their refusals, including the lack of a need for the request or the action, their inability, unwillingness, lack of obligation, or conflicting rights. We will now examine some of the accountings used by listeners to put off or refuse speakers' requests. Although there were only a few instances of accounted refusals in our data, we can see several of the strategies described by Garvey (1975) and Labov and Fanshel (1977).

The first two examples show the listener refusing by asserting that he is not the appropriate person to carry out the action requested, thus apparently referring to his lack of obligation or the absence of the speaker's right to make the request:

Ann: I want some. (1)

Mitch: Ya gotta get your own crayons. (2)

Ann: Judi, what's in this? (1)

Judi: You gotta read the directions by yourself. (2)

In another instance, Mary responds to a request for action issued by Ann by asserting that there is no need for the request:

Ann: Mary, don't look. (1)

Mary: I'm not. (2)

The same reason, the lack of a need for the request, is used by Kim in responding to Evan:

Evan: I want a puppet. (1)

Kim: You got one. (2)

Evan: No I don't. (3)

Jake: If you go back to ask Susie, she will trade. (4)

Evan responds to Kim's refusal (2) by reasserting the need for the request (3). Jake then responds with a refusal, but mitigates it by offering an alternative listener (4). Jake later uses the same strategy, offering a substitute while refusing, in response to another request from Evan.

Evan: Can I have him? (1)

Jake: I'll let ya read the book. (2)

Finally, we present two separate interactions between Chuck and Sally which demonstrate Chuck's use of highly developed strategies to avoid complying with Sally's commands without refusing outright. In the first sequence, some pages in Chuck's

book have become loose, and he holds them up as if inquiring what should be done:

Sally: Just pull 'em apart. (1)

Chuck: She stapled 'em together. (2)

Sally: Just go like this (makes tearing motion). (3)

Chuck: Then the whole book will fall apart. (4)

Sally: Goody, goody. (5)

Chuck: The pages would be flying all over the room (laughs) into the wastebasket. (6)

Sally: Yeah, and then they have to get a new book. (7)

In (1), Sally directs him to rip out the remaining pages, using an imperative form. Chuck refuses, but gives an accounting (2), pointing out that her suggestion would undo the teacher's repair job. Sally reiterates and increases the clarity of her request for action with a nonverbal explanation (3), and Chuck again points out the negative consequences of her request for action (4), which are apparently just what Sally had in mind (5). Chuck finally sees that Sally is seriously encouraging him to damage his book, and he disguises his final refusal by describing a humorous imaginary scene which would result if he complied with her request for action (6). Sally goes along with the flight of fantasy and drops her request for action entirely--at least for the moment (7).

A similar interchange occurs a few minutes later:

Chuck: I'm gonna tear this book apart. Tear, tear, tear. (1)

Sally: Do it. (2)

Chuck: Huh? (3)

Sally: Do it. (4)

Chuck: Tear this apart? Go "ch'ch'ch?" (tearing noise) (5)

Unh-uh. (6)

Sally: Why? (7)

Chuck: It already is broke. (8)

Sally: But that's why I want you to tear it apart. (9)

Chuck: (to Terry): Are you tearing yours apart? (10)

Terry: (shakes her head "no") (11)

Chuck: Darn, I just lost my page. (12)

Here Chuck jokingly introduces the idea of tearing his book (1) and Sally immediately and bluntly directs him to do it (2). Chuck first responds by making two requests for clarification, acting first as though he has not heard her (3), next as though he does not understand her (5), and finally refusing outright (6). Sally questions the reason for his refusal (7) and he explains it (8), but Sally uses his reason to support her request for action (9). Chuck then checks with another group member (10), and when he learns that he will be the only one tearing his book apart, he changes the topic (12), completely ignoring the request for action.

Chuck's skill lies in his ability to refuse without appearing to refuse. He and Sally are friends and interact very frequently,

and Chuck manages to protect his own self interests without angering her by his refusals to comply with her requests for action. It is precisely this type of diplomacy which exemplifies the sophistication in social contexts and relations known as communicative competence.

Requests for Information

The children in this study used a variety of syntactic forms to convey their requests for information to listeners. Examples of some of the forms which were used to express the request for information function are listed below.

1. Interrogative

   How do you do this? (Wh-question)

   Did you guys put four ones? (Yes-no question)

   That was a simple word, wasn't it? (Tag question)

   She doesn't even know 'when'? (Intonational marker)

2. Declarative

   I'm stuck on a word.

3. Imperative

   Tell me what it says.

Declarative forms were used as requests for information on only two occasions in this study and imperatives not at all; the frequencies of the various interrogative forms are given in Table 3.

Requests for information vary in directness. The most direct requests for information were expressed through interrogative forms,

Table 3

Frequencies of Forms Used to Request Information

Form	Group A	Group B	Group C	Total
	Requests for Information			
Wh-question	7	6	32	45
Yes-no question	5	2	6	13
Tag question	2	1	1	4
Intonational marker	0	1	2	3
Declarative	0	0	0	0
Imperative	0	0	0	0
Total	14	10	41	65

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especially Wh- and Yes-no questions. Cherry (1978) further distinguished between explicit and inexplicit requests for information; explicit requests for information are those which specify the informant being addressed as well as the information desired. The children's speech in our study revealed varying degrees of directness and explicitness in requests for information. For example, the speech of two female students illustrates both indirect and direct speech: Ann's requests to Judi are direct and explicit, while Tammy uses indirect and inexplicit requests for information in the examples below:

Ann: Judi, what's that word? Mitch, what do you do on this?

Tammy: I'm stuck on a word. Stuck on another word.

In fact, one of Tammy's requests for information is so elliptical that it would probably not have been identified in the transcripts were it not for Mitch, who correctly interprets her nonverbal message as a request for information:

Tammy: Ummm (large sigh). (1)

Mitch: Ask Michelle this time. (2)

Tammy: No, I'm asking one of you two. (3)

Requests for information can be mitigated or aggravated, just like requests for action. Most requests for information were successful, resulting in the listener supplying the information to the speaker. The same rules regarding the need to account for

refusals appear to hold with requests for information. In the present study the most frequent reason used by listeners when they did not supply the information requested was their inability to respond, i.e., "I don't know." There was one occasion when a listener refused to supply the information requested on the grounds that she was not the appropriate person to supply it:

Ann: Judi, what goes in this? (1)

Judi: You gotta read the directions by yourself. (2)

In a few instances, requests for information which did not specify the listener were ignored, but even inexplicit requests received responses in the majority of cases:

Mitch: Blue, where's blue? (1)

Ann: I got it. (2)

If the request for information specified the intended listener by name, the information was almost always either supplied or an accounting given, except in the case of one pair of children in Group C.

Speakers in the present study pursued unsuccessful requests for information more frequently than they did unsuccessful requests for action. Some examples of the strategies used to follow up on unsuccessful requests for information are discussed below. The first example consists of a series of requests for information from one girl to another:

Ann: Judi. Judi, what's that word? Judi. Judi. Jude. (1)

Judi, what's that word? Judi, Judi, Judi, Judi. (2)

Judi, Judi, Judi, Judi, Judi. What's that word? (3)

Judi: "Only." (4)

In this example, Ann relies on dogged persistence and repetition of her direct, explicit request for information in attempting to overcome Judi's lack of cooperation. She uses stress and intonation changes to make the later requests sound more urgent, and finally succeeds in getting the information. Apparently undaunted, Ann uses the same strategy again a few minutes later, but fails completely:

Ann: Jenny, what's that word? Jenny, Jenny. (1)

Please, please. Right there, right there, right there. (2)

Jenny, what's that word right there? Jenny, Jenny. (3)

Jenny, please Jenny what's that word? Jenny, (4)

Jenny, Jenny. (5)

(Jenny gives no response)

Ann's strategy of merely repeating her requests contrasts with the actions taken by Tammy when her requests for information are unsuccessful:

Tammy: Stuck on another word. (1)

Mitch: Well, you help her, Al. (2)

Al: No. (3)

Tammy: Yep. (4)

Al: What word? Ask Mary, I gotta do this. Mary knows it, she already gots her whole thing done. (5)

Tammy: You did too. (6)

Mitch: Yeah, Al. (7)

Tammy: Here, Al, what's the word? (8)

Al: Don't you know it? "Cave." (9)

Following Tammy's initial indirect, inexplicit request for information (1), Mitch delegates the responsibility for answering her to Al (2), who refuses without giving an accounting (3). Tammy is persistent (4) and Al first appears to cooperate, only to refuse again while both accounting for his refusal and suggesting another listener to her (5). Tammy finds his accounting unsatisfactory (6) and is supported by Mitch (7). She then becomes more direct and forceful (8), and Al accedes, although he does so with a deprecating remark suggesting that her ignorance of the word is suprising (9).

Another example of Tammy's reaction to an unsuccessful request is given below:

Tammy: Ummm (large sigh). (1)

Mitch: Ask Mary this time. (2)

Tammy: No, I'm asking one of you two. (3)

Al: No. (4)

Mitch: Okay, me. (5)

In this example, Tammy responds to Mitch's refusal (2) not by giving up, but by leaving Mitch and Al the choice as to who will answer her question (3). Although Al refuses without an accounting (4), Mitch backs down and agrees to help her (5).

In examining the differences between the strategies and success of Tammy and Ann in obtaining information, a question naturally arises about the strangeness of the interactions between Ann and Judi. Ann works so hard in producing so many identical requests before Judi acknowledges her and provides information. Information about Ann's and Judi's perception of their relative status in the group would contribute to understanding the factors underlying this communicative interaction. We are currently studying the relationship between students' perceptions of one another on dimensions of popularity, reading competence, and authority, and their communicative behavior toward one another in order to learn more about the determinants of their communicative strategies and success.

A question arose regarding the kinds of information being requested by the subjects in this study. We wanted to know whether the children were asking for information which would help them

complete their assignments, and we distinguished among four topic categories of requests for information, which are described below:

1. The first category consisted of requests for information aimed at obtaining a particular answer needed in the completion of the assigned academic task. Approximately half of the subjects asked for at least one answer, and their peers were generally cooperative in supplying the requested information. Examples include:

Hey, what's this word, Kim?

Did you guys put four ones on your sheet?

2. The second category of requests for information involved those which were also oriented to the task, but having to do with general task parameters rather than specific answers to questions about the assignment. These requests included instructions on how to do the task and group members' progress on the task. Examples include:

What did the teacher say, after we're done reading, do what?

We're supposed to read our books now, aren't we?

Are you finished?

3. The third category is less directly associated with the particular tasks assigned to the groups; it consisted of those requests for information which revolved around the materials used

by the groups, including such aspects as possession, location, attributes, and actions associated with these materials. Examples include:

Hey, is this yours?

Who wants to trade?

Okay, where's the crayons?

4. The fourth category contained requests for information unrelated to the tasks or materials of the groups; the topics of these requests for information were not in the immediate group context. Few instances of this category were found. Examples include:

Chuck: Hey, didja watch Flintstones last night?

Tim: Hey, Kim, remember that time we went into my room?

The frequencies of instances of these categories showed that most requests for information involved topics related to the group context. Occurrences of the first three categories were approximately equal in number. In future research it might be useful to examine the effect of task requirements on the kinds of information requested. On more difficult individual tasks, requests for specific answers might be expected to predominate, while easier tasks involving the use of novel materials would be expected to result in more requests for information of the second or third type. Nonchallenging tasks, requiring little attention by the students, might also facilitate the occurrence of requests for information on topics unrelated to the task or group context.

The present study has included a comparison of the children's language production with the adults', and we have seen that the children's system is an incompletely developed version of the adults' system. We have also taken another approach in this study, in which the children's system is described without reference to the adult system. The description of strategies used by children to issue, mitigate, aggravate, and respond to requests has illustrated their ability to accomplish a variety of ends through the use of language. In addition, the comparison of their strategies to those used by adults has suggested some areas in which the children's system may be incompletely developed (e.g., in accounting for refusals). In a study currently in progress we are investigating first-grade children's compecence with the request function of language in greater detail.

Issue 2: Speaker Preference for Sex of Listener

The second major question addressed in this study was: Do speakers in first-grade reading groups show a preference for same-sex or cross-sex listeners in directing their requests for action or information? Some anecdotal evidence for a general same-sex preference can be found in statements by the children such as the following:

Sally: At last I'm sitting by a girl. (1)

Chuck: So wowie. (2)

Joanie: Who wants to trade? Who wants to trade? (holding puppet) (1)

Tim: I do (raising hand). (2)

Evan: I do (raising hand). (3)

Kim: I do. (4)

Joanie: Kim (gives puppet to her). (5)

Tim: Guy, you always pick the girls. (6)

Joanie: Boys pick boys and girls pick girls. (7)

The next section of the paper includes a summary and discussion of a quantitative analysis of sex of listener choice. The children's raw same-sex and cross-sex scores (with Group A adjusted for its longer duration) are presented in Table 4, along with the scores which resulted from an adjustment for differences in group sex composition. An examination of the adjusted raw scores provides insight into the children's same-sex and cross-sex preferences, but the results can be represented even more clearly by computing the percentage of each child's requests which were addressed to cross-sex listeners. These percentages are presented in Figure 1. Note that same-sex percentages are the complement of the cross-sex percentages. The reader can compare these percentages to the percentages expected if the probability of making a request of a cross-sex listener were equal to 50% (i.e., if no cross-sex or same-sex preference existed). The data show that there does not appear to be a clear-cut trend toward either a same-sex or a cross-sex preference in the scores of individual children.

Table 4

Raw and Adjusted Scores for Individual Subjects to Cross-Sex and Same-Sex Listeners

	Requests for action				Requests for information			
	Raw scores		Scores adjusted for group sex composition		Raw scores		Scores adusted for group sex composition	
Sex of Subject	Cross-sex	Same-sex	Cross-sex	Same-sex	Cross-sex	Same-sex	Cross-sex	Same-sex
				Group A				
male	3	1	1.5	1.0	7	2	3.5	2.0
male	3	1	1.5	1.0	0	0	0	0
female	5	1	2.5	1.0	3	1	1.5	1.0
female	0	0	0	0	0	1	0	1.0
				Group B				
male	6	3	3.0	1.5	1	0	0.5	0
male	8	1	4.0	0.5	1	1	0.5	0.5
male	3	3	1.5	1.5	2	0	1.0	0
female	15	0	5.0	0	2	0	0.67	0
female	3	4	1.0	4.0	3	0	1.0	0
				Group C				
male	2	7	0.5	7.0	2	13	0.5	13.0
male	5	5	1.25	5.0	0	3	0	3.0
female	2	0	1.0	0	5	0	2.5	0
female	1	2	0.5	0.67	1	16	0.5	5.33
female	0	0	0	0	0	1	0	0.33
female	0	0	0	0	0	0	0	0

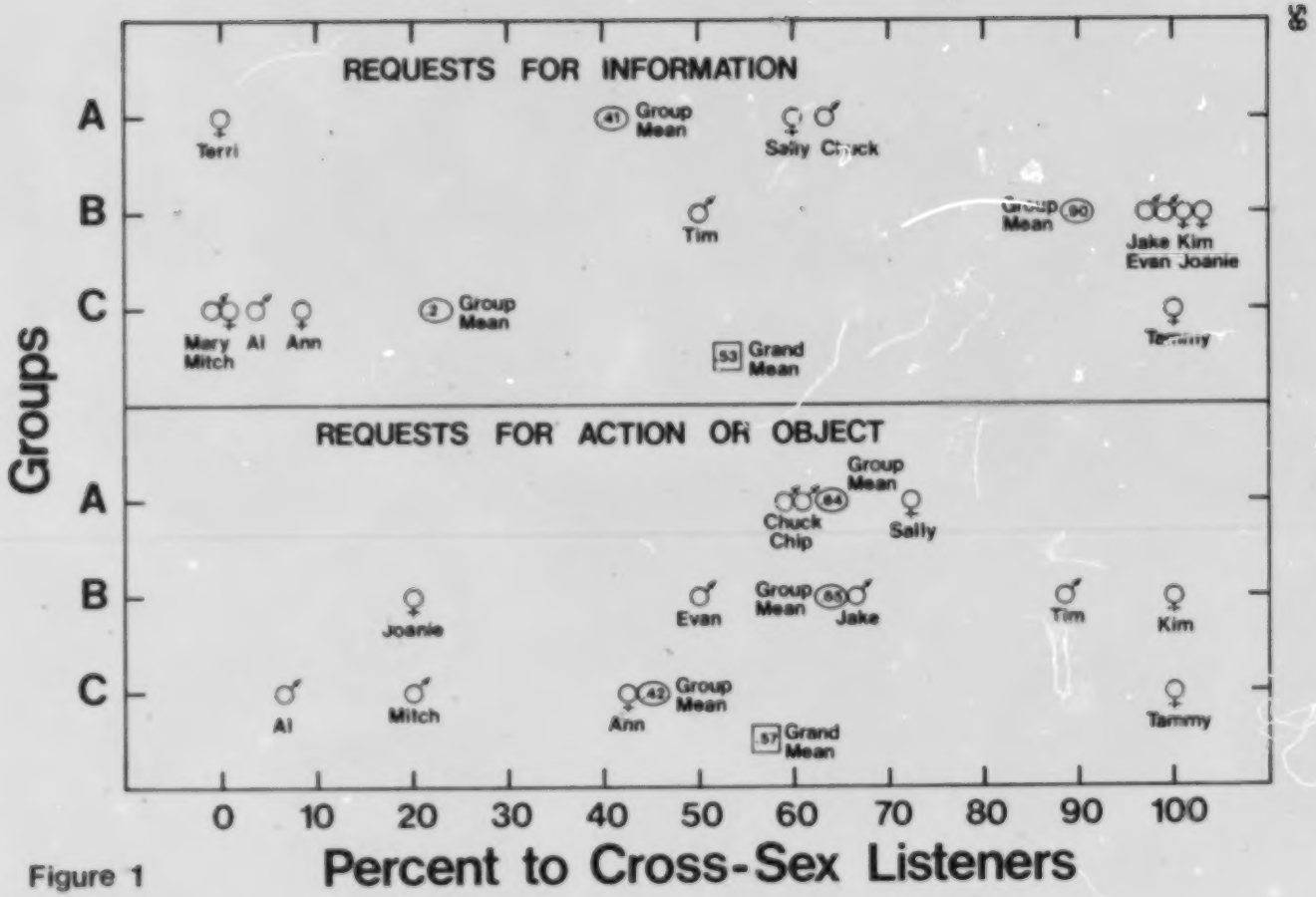
REQUESTS FOR INFORMATION
A
B
C
Terri
(41) Group Mean
Sally Chuck
Tim
Group Mean (90)
Jake Kim Evan Joanie
Mary Mitch
Al
Ann
(2) Group Mean
Grand Mean
Tammy
REQUESTS FOR ACTION OR OBJECT
Group Mean
(84)
Chuck Chip
Sally
Joanie
Evan
Group Mean (85)
Jake
Tim
Kim
Al
Mitch
Ann
(42) Group Mean
Grand Mean
Tammy
Groups
0 10 20 30 40 50 60 70 80 90 100
Percent to Cross-Sex Listeners

Figure 1

Figure 1 also shows the distribution of individual percentages, group mean percentages, and the grand mean percentages for requests for information and requests for action or object. These plots of the percentage scores are based on the raw scores which were adjusted for duration and group sex composition. Only requests for information and requests for action or object which were directed to another student were included in this analysis. Subjects who produced no requests are not included in this figure. It is apparent that the mean percentage of requests for information and requests for action or object varied greatly from group to group. The percentage of cross-sex requests for information ranged from 90% in Group B to 23% in Group C, while the perecentage of cross-sex requests for action or object ranged from 65% in Group B to 42% in Group C. Same-sex listeners again are the complements of the plotted cross-sex percentages. The percentage scores shown are based on the raw scores which were adjusted for duration and group sex composition. Subjects who produced no requests are not included in this figure.

One of the most striking aspects of these data is the wide variation in the proportion of cross-sex and same-sex requests produced by these children. Inspection of Figure 1 provides an important insight which can be drawn from exploratory data analysis (Tuhey, 1977) where little is known about expected values and the samples are small. The mean number of cross-sex requests for

information for all subjects is 53%; however, not one child in the study actually obtained this mean score. This fact in itself would not be important if there was a cluster of scores around the mean, but in this case, the actual distribution of the data reveals that the mean score of 53% is not due to a clustering of scores in the middle of the range, but rather to a bimodal pattern of two clusters of scores at the extreme ends of the distribution. It would be very misleading to report the mean of 53% as representing the children's tendency to make cross-sex requests about half the time. Instead, the figure shows that many of the children showed an all-or-none pattern, some tending to address their requests for information only to same-sex listeners (0% cross-sex), and others addressing only cross-sex listeners (100% cross-sex). This suggests a very different interpretation than could be made from inspection of the mean. Rather than interpreting the data as showing an equal probability that requests for information will be made to cross-sex and same-sex listeners, it appears that individual differences in same-sex and cross-sex listener preference are marked making it difficult to talk about a "typical" pattern of listener sex preference in first-graders in this context.

The unusual bimodal pattern found in the requests for information deserves closer inspection. Sex of speaker does not explain the two modes, for we can see that speakers of both sexes can be found at both ends of the listener preference scale. Two of three

boys in Group B always preferred to address requests for information to girls, while neither of the boys in Group C ever did so.

It can be seen, however, that the two extreme modes are accounted for nearly perfectly by two different groups. Four out of five of Group B's students preferred cross-sex listeners 100% of the time in making requests for information, while four of five students in Group C showed the opposite preference, addressing 10% or fewer of their requests for information to cross-sex listeners.

Although the different patterns shown by these groups cannot be explained by the limited information available, speculation is possible. Group C, with its high percentage of same-sex interaction, contained three children (one male, two female) who consistently addressed questions to only one other group member of the same-sex. The group interaction might best be characterized as a collection of dyads, usually consisting of same-sex partners (Al and Mitch, Ann and Judi, and Mary and Ann). Children in Group B, on the other hand, showed more diversity in choosing listeners for their requests for information; they appeared to behave more like a true group and less like a series of same-sex dyads. An interesting question for future research involves the factors responsible for these two contrasting group structures.

There is yet another factor which might account for the bimodal pattern of listener sex preference in requests for information. In the previous section it was noted that requests for information

in the reading group context frequently concerned requests about the assignment. If children in these groups are aware of a hierarchy of academic competence among group members, the primary factor underlying choice of listener may not be sex, but rather the speaker's perception of the listener's competence in performing academic tasks. Information on the children's perceptions of status hierarchies is not available in this study, but we are currently conducting a study which uses sociometric techniques to determine the relationship of such social factors as perceived academic competence, authority, and affiliation to the communication patterns observed in classrooms. This is one example of the way a detailed analysis of quantitative data can suggest fruitful avenues for future research.

Requests for action or object showed that individual and group percentages of requests for action directed to cross-sex listeners, reveals a much more normally distributed pattern of scores. The extremes of cross-sex preference do not account for a disproportionate number of scores; in fact, there were no children who chose only same-sex listeners, while just two chose only cross-sex listeners for their requests for action. The other children's scores are distributed fairly evenly along the scale, although Groups B and C do show tendencies similar to those shown in their requests for information. Members of Group C tended to prefer same-sex listeners while Group B members tended to be found

on the cross-sex end of the scale. The reasons that preference for sex of listener is less marked in requests for action than in requests for information is not known. A relevant area for future research on this question is the issue of the perception of power and dominance hierarchies by group members.

The data presented in this study, while preliminary, seem to demonstrate that the same-sex preference which has been found in previous research in play contexts, and which was verbalized by some of the children in this study, does not occur in actual communication patterns in the reading group context. Individual children showed cross-sex or same-sex preferences, but no general preference exists for all the subjects in the present study.

There are several possible explanations for the lack of the expected same-sex preference in choice of listener. As discussed earlier, previous research has focused on affiliative choices in spontaneously formed play groups. In contrast, the present research focused on previously established mixed-sex reading groups in the classroom. The differences between these two situations may account for the observed variation. The reading groups that were studied here provided an opportunity for cross-sex interaction, and the students in this situation seem to prefer it. Another possible explanation for the differences found in the present study in comparison with previous research is the current emphasis on sexual equality and the possible effects upon changing sex roles for boys and girls.

Future research should examine the consistency of the effects observed in the present study. Specifically, further research could include more subjects with more data per subject, as well as more qualitative descriptions. More extensive research would result in a useful contribution to our understanding of sex role socialization in young children, and the role of educational institutions in this process. Mixed-sex instructional groups provide opportunities for proximity to members of the opposite sex and appear to encourage cross-sex interaction. The consistency of this effect needs to be further investigated, particularly over the course of the school year.

Overall Conclusion

In this paper we have attempted to address several issues in the sociolinguistic investigation of small group interaction. Several conclusions follow from our work. First of all, it is possible to analyze group structure in first-grade reading groups with a sociolinguistic method, which includes ethnographic description. Ethnography is necessary in order to specify the context within which the data are collected; it is only possible to explore the questions of interest if an ecologically valid study is conducted. The results of the ethnographic analysis provided in this study show that we can specify the context from which the data samples are drawn, and that this specification and description is necessary to interpret the data.

A second point is that the accurate and complete collection of data on student-student interaction is possible if we employ video- and audiotaping. The sociolinguistic method of analysis is optimized with accurate and complete data.

A third conclusion is that sociolinguistic analysis is applicable to the study of an important dimension of small-group communication in school: same-sex and cross-sex communication patterns. Specifically, it is possible to use measures of communication, in this case request forms, in an exploratory data analysis (Tuhey, 1977) to address questions about a social variable. Additionally, it may be useful to explore the relationship of the communication patterns observed in the small groups in this study to other social variables, for example, the social structure. Other measures of language use which could be studied include informatives (Labov & Fanshel, 1977), politeness and indirectness (Labov & Fanshel, 1977; Lakoff, 1973), and the turn-taking structure (Griffin & Humphrey, 1978; Mehan et al., 1976; Sacks, Schegloff, & Jefferson, 1974).

The study presented here exemplifies the use of the sociolinguistic method in exploring educational questions. The school is a social system which functions to encourage children to become competent members of society by providing them with opportunities to develop their skills. Analyses which examine the processes of socialization, such as sociolinguistic analyses, are necessary if

we are to understand the process of education and how it differs for individual children. In conclusion, the authors of this paper believe that the methodology presented here is a very fruitful approach to exploring the processes of classroom communicative interactions.

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Reference Notes

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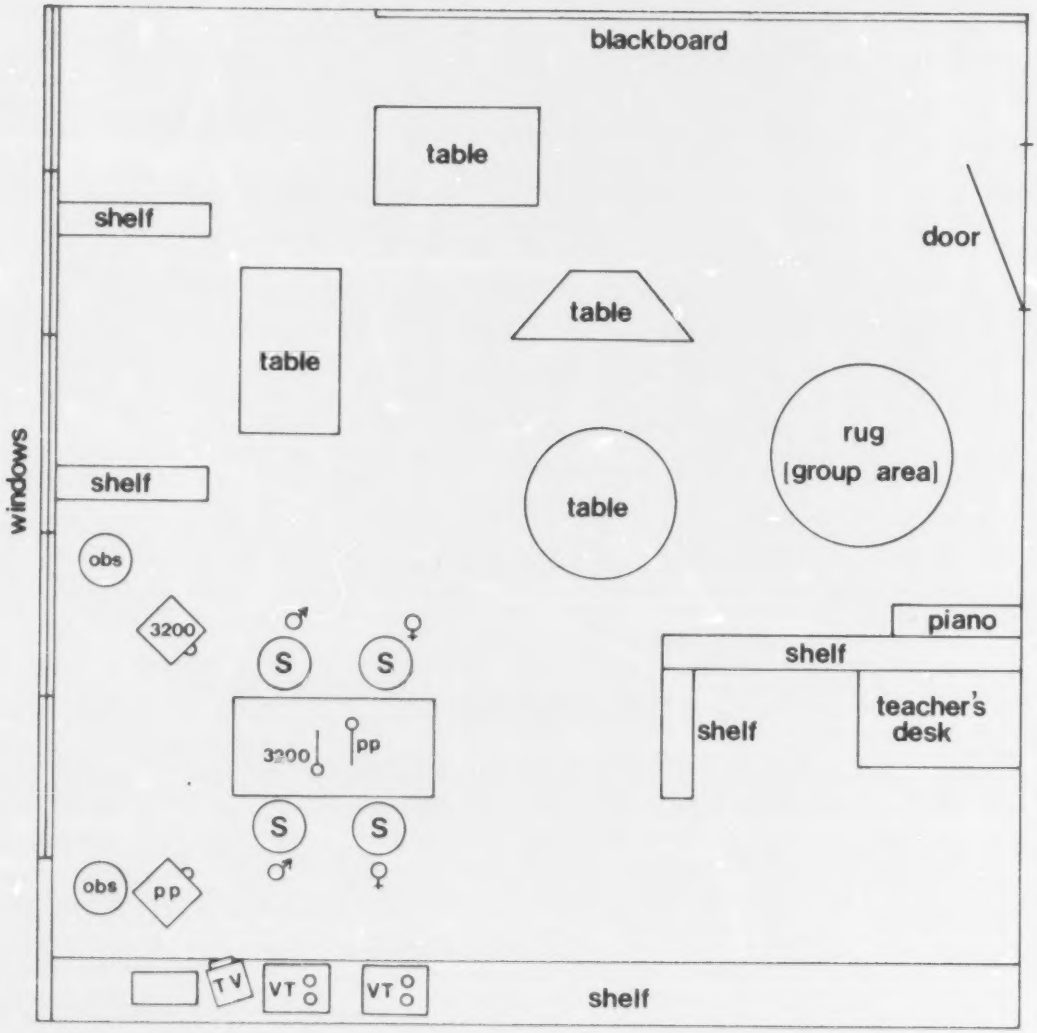
Appendix

SCHEMATIC DIAGRAMS

AND

INDEX REPORT FORM



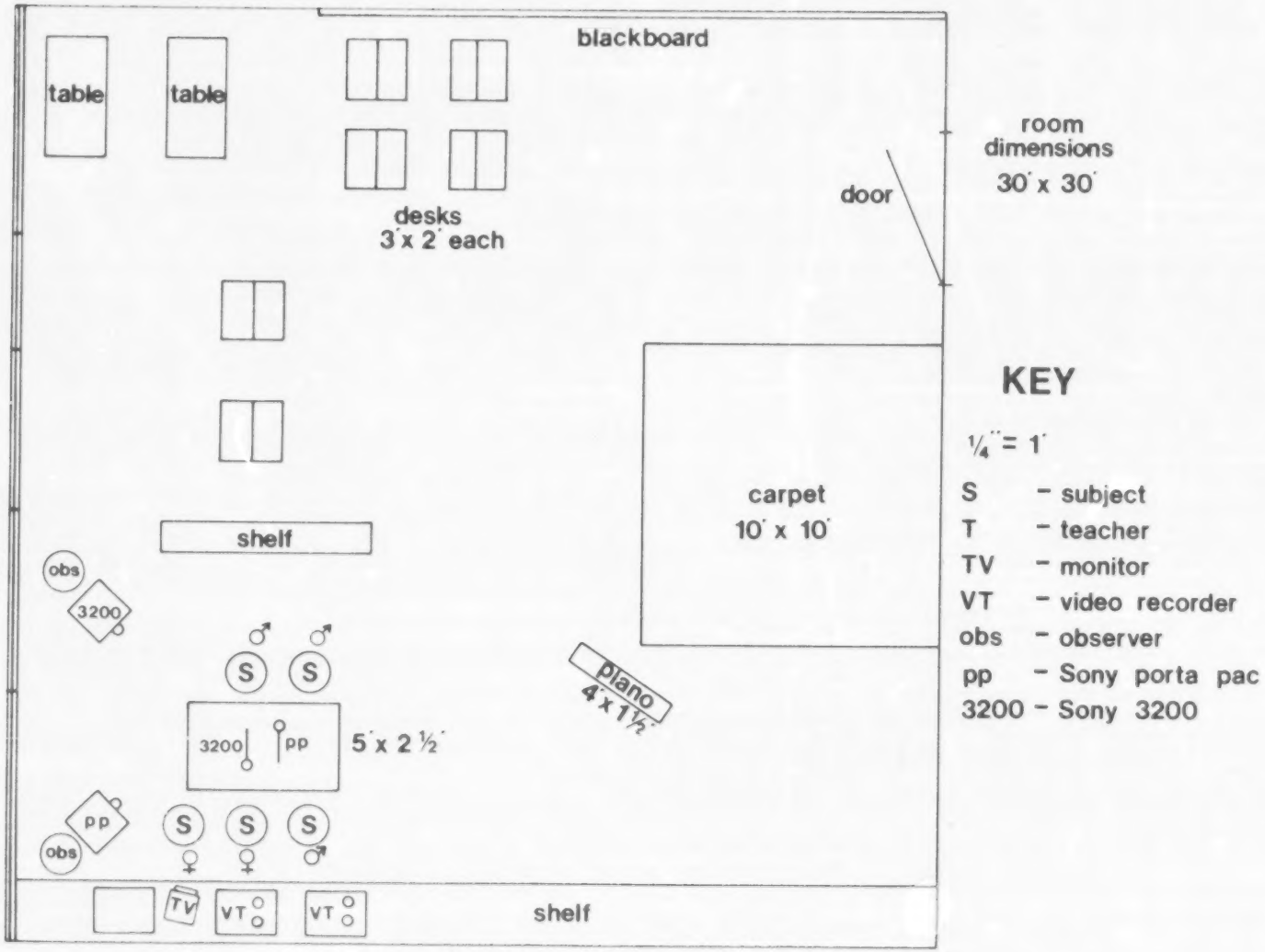
room dimensions
30' x 30'

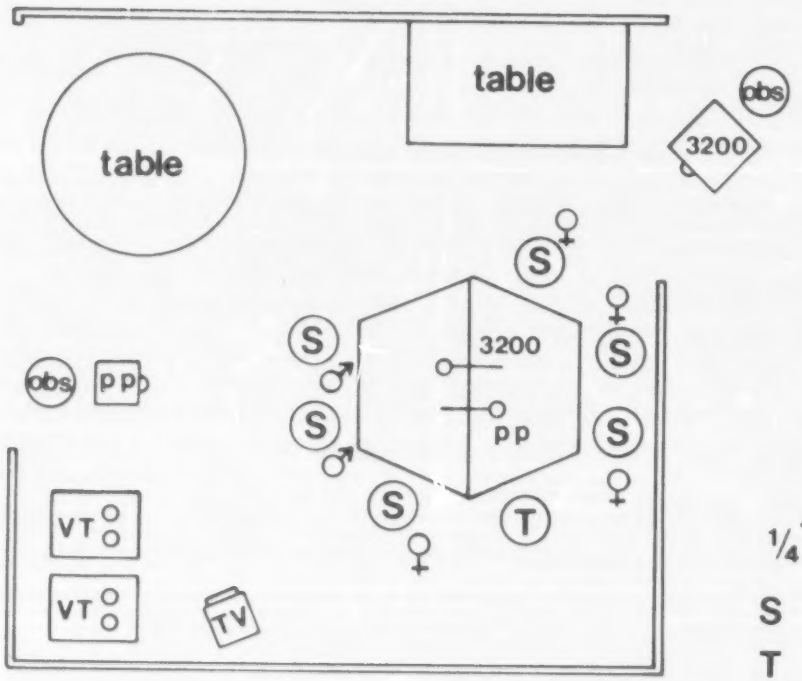
KEY

¼" = 1'

S – subject
T – teacher
TV – monitor
VT – video recorder
obs – observer
pp – Sony porta pac
3200 – Sony 3200

79


blackboard
table
table
desks
3' x 2' each
door
room
dimensions
30' x 30'
windows
carpet
10' x 10'
shelf
obs
3200
S
S
3200
pp
5' x 2½'
piano
4' x 1½'
pp
obs
S
S
S
TV
VT
VT
shelf
KEY
¼" = 1'
S - subject
T - teacher
TV - monitor
VT - video recorder
obs - observer
pp - Sony porta pac
3200 - Sony 3200



room
dimensions
15´ x 15´

KEY

¼˝ = 1´

S – subject
T – teacher
TV – monitor
VT – video recorder
obs – observer
pp – Sony porta pac
3200 – Sony 3200

INDEX REPORT FORM

(adapted from Griffin & Shuy, 1978)

Video Tape #____ Context ☐ Tight ____ Grade_____

Concurrent Video #_____ Teacher_____

Concurrent Audio #_____ Situation_____

Video Index by ☐ 3200 ☐ portapac Index Report by_____

Quality: Video Tape

Audio Tape:

Integration:

Audio tape index #____goes with this index #____

until audio #____and this index #____

Index #'s		Report: (Include at each mark names and two levels of comment.)
Video by 100's or 4 minute marks	Audio	